

CLAIMS

1. A method for determining volumes in human bodies or  
5 animal bodies, wherein image data of an interesting  
volume are acquired by means of a suitable imaging  
method and the acquired image data are segmented in a  
manual, semi-automated or fully automated fashion, and  
wherein dimensional information on the interesting  
10 volume is automatically determined from the segmented  
image data, characterized by the fact

that at least one characteristic value is assigned to  
the steps in which the image data is acquired and  
15 segmented, with said characteristic value representing  
a measure for the error occurring in these steps, by  
the fact

20 that an error which represents a measure for the error  
occurring during the determination of the dimensional  
information is determined from the assigned  
characteristic value, and by the fact

25 that the error value is displayed or output,  
respectively, preferably together with the assigned  
dimensional information.

30 2. The method according to Claim 1, characterized by the  
fact that at least one characteristic value is also  
assigned to the interesting volume and taken into  
consideration when determining the error value of the  
dimensional information.

35 3. The method according to Claim 1 or 2, wherein the  
segmenting process is carried out in a manual or semi-  
automated fashion, characterized by the fact that at  
least one personal characteristic value is assigned to  
each person carrying out the method and taken into

consideration when determining the error value of the dimensional information.

4. The method according to Claim 3, characterized by the  
5 fact that the personal characteristic value assigned  
to each person is determined automatically.

10 5. The method according to Claim 4, characterized by the  
fact that the automatic determination of the  
characteristic value assigned to a person is realized  
based on a manual or semi-automated segmenting process  
which is carried out by the respective person with  
predetermined test data.

15 6. The method according to one of Claims 1 - 5,  
characterized by the fact that the at least one  
characteristic value assigned to the step in which the  
image data is acquired contains at least one measure  
from the following group of measures: signal-to-noise  
20 ratio, tissue contrast, pitch, increment, sequence  
parameters, layer thickness, matrix size, filter used.

25 7. The method according to one of Claims 1 - 6, wherein a  
semi-automated or automated segmenting process is  
carried out, characterized by the fact that the at  
least one characteristic value assigned to the step in  
which the segmenting is carried out contains a measure  
for the accuracy of a segmenting method used for the  
30 segmenting process and/or a measure for the  
reproducibility of the results of the segmenting  
method used.

35 8. The method according to Claim 2, characterized by the  
fact that the at least one characteristic value  
assigned to the interesting volume contains a measure  
for the size and/or the shape of the interesting  
volume.

9. The method according to one of Claims 1 - 8, characterized by the fact that the interesting volume consists of the volume of a tumor.

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10. The method according to one of Claims 1 - 8, characterized by the fact that the interesting volume consists of the volume of an organ.

10 11. A device for determining volumes in human bodies or animal bodies, with means for inputting image data of an interesting volume, with means for segmenting the image data in a manual, semi-automated or fully automated fashion, and with means for automatically determining dimensional information on the interesting volume from the segmented image data, characterized by the fact

20 that at least one data memory is provided, by the fact

25 that characteristic values which can be assigned to the input and/or the segmented image data in accordance with predetermined criteria are stored in the at least one data memory, and by the fact

30 that the means for automatically determining the dimensional information are coupled to the at least one data memory and designed such

35 that they are able to read the characteristic values out of the data memory and determine an error value from the characteristic values which represents a measure for the error occurring in the determination of the dimensional information.

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12. The device according to Claim 11, characterized by the fact that a characteristic value which is assigned to the interesting volume is stored in the data memory.
- 5 13. The device according to Claim 11 or 12, characterized by the fact that means are provided for displaying and/or outputting the determined dimensional information and the determined error value.
- 10 14. The device according to one of Claims 11 - 13, characterized by the fact that characteristic values for each person operating the device are stored in at least one data memory that is coupled with the means for determining the dimensional information.
- 15 15. The device according to Claim 14, characterized by the fact that a data memory with test data records is provided, wherein the person operating the device is able to carry out a manual or semi-automated test segmenting process on said test data records.
- 20 16. The device according to Claim 15, characterized by the fact that means are provided for evaluating the test segmenting process, as well as for determining and storing a personal characteristic value for the respective person.
- 25 17. The device according to Claim 16, characterized by the fact that a data record is assigned to the personal characteristic values, wherein said data record identifies the test data record/test data records used for determining the respective characteristic value.
- 30 18. A medical imaging apparatus with a device according to one of Claims 11 - 17.
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19. A utilization of a device or a medical apparatus according to one of Claims 11 - 18 for determining the volume of a tumor.
- 5      20. The utilization of a device or medical apparatus according to one of Claims 11 - 18 for determining the volume of an organ.